

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/33037

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07K 1/00, 2/00; A61K 38/00; 39/02, 39/38; G01N 33/53

US CL : 530/350, 300, 825; 514/2; 424/234.1, 264.1, 190.1, 184.1; 435/7.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 530/350, 300, 825; 514/2; 424/234.1, 264.1, 190.1, 184.1; 435/7.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/079242 A2 (CHORON SPA) 10 October 2002 (10.10.2002), especially Sequence Listing, claims; pages 3, 4, 35 and 36; and claims 23-25.	1, 2, 9, 10, 16, 17, 22, 23, 28, 29 and 38-41
X	HIMMELREICH R. et al. Complete sequence analysis of the genome of the Mycoplasma pneumoniae. Nucleic Acids Res. 15 November 1996, Vol. 24, No. 22, pages 4420-4449,	1 and 38-41
---	entire document.	2, 9, 10, 16, 17, 22, 23, 28 and 29
Y		

<input type="checkbox"/> Further documents are listed in the continuation of Box C.	<input type="checkbox"/> See patent family annex.
* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"B" earlier application or patent published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search	Date of mailing of the international search report
26 April 2005 (26.04.2005)	11 OCT 2005
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer S. Devi, Ph.D. Telephone No. (571)272.1600

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☒ Claims Nos.: 21 and 42-45
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1,2,9,10,16,17,22,23,28,29 and 38-41

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

~~No protest accompanied the payment of additional search fees~~

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BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1, 2, 9, 10, 16, 17, 22, 23, 28, 29 and 38-41, drawn to an isolated polypeptide comprising an amino acid sequence of SEQ ID NO: 2, 3, 4, 5 or 6, or a biologically active fragment thereof.

Group II, claims 3-5, 8, 11-13, 20, 24, 25 and 30, drawn to an isolated nucleic acid encoding a polypeptide comprising an amino acid sequence of SEQ ID NO: 2, 3, 4, 5 or 6, or a biologically active fragment thereof.

Group III, claims 6, 7, 14, 15, 18, 19, 26, 27, 31 and 32, drawn to an antibody specific to a polypeptide comprising an amino acid sequence of SEQ ID NO: 2, 3, 4, 5 or 6, or a biologically active fragment thereof.

Group IV, claims 33-37, drawn to a method of identifying a substance that inhibits an activity of the CARDS toxin.

Claims 21 and 42-45 are unsearchable because of their improper multiple dependency.

The inventions listed as Groups I-IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Inventions I-IV lack unity. The special technical feature of the first claimed invention is an isolated polypeptide comprising an amino acid sequence of SEQ ID NO: 2, 3, 4, 5 or 6, or a biologically active fragment thereof. However, such a polypeptide or a fragment thereof is already disclosed in the art at the time of the invention. For example, WO 02/079242 A2 (CHIRON SPA) disclosed the polypeptide comprising the amino acid sequence of SEQ ID N: 4, AAE29374, and/or a biologically active fragment thereof (see pages 2-4 under Sequence Listing). Thus, the special technical feature of the first claimed method is taught by the prior art, and therefore does not define over the prior art. The special technical feature of inventions II, III and IV are delineated above. The products of these inventions do not share a significant common structure with each other and with the product of invention I.

Continuation of B. FIELDS SEARCHED Item 3:

WEST, DIALOG, EMBASE, BIOSIS, MEDLINE, Sequence databases

SEQ ID NO: 2-6, 69-71 and 75 and inventors' names

Form PCT/ISA/210 (extra sheet) (January 2004)